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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,592	07/11/2001	William Holm	0104-0354P	7653
2292	7590	08/21/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			PARKER, FREDERICK JOHN	
PO BOX 747			ART UNIT	
FALLS CHURCH, VA 22040-0747			PAPER NUMBER	

1762

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/901,592	HOLM ET AL.	
	Examiner	Art Unit	
	Frederick J. Parker	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8,19,20,31,34 and 37-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,19,20,31,34 and 37-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Finality of the previous Office Action by Exr Fuller has been withdrawn, and this Examiner institutes the following rejections:

Specification

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract is sparse and does not comply as above.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1,19,20,31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrases "said add on jetting being performed without masking or stenciling" or jetting "one drop at a time" are not present in the original filing, as shown by a reading of the specification by this Examiner and an EAST word search of the appropriate PG PUB. Applicants previously stated in the Remarks of 4/22/04 that there was support and the previous Examiner was convinced of support per his Summary of 4/13/04, but nowhere on the record do the page/line citations or rationale for that support exist. Since this Examiner could find no reasonable support for the amendments, he deems these limitations to be New Matter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1,8,19,20,31,39 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al US 6296896 (EFD 4-2-1996).

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It is taught on col. 3, 1-17, that it is known to screen print an insulating substrate with a conductive material having an inherent viscosity suitable for screen printing, followed by applying droplets, e.g. by ink jet methods, of an additional material onto predetermined positions on the printed substrate without use of mask or stencil. Specification page 4, 30+ permits jetting different materials than those initially applied. Since the claim never requires the ink jetted material to be applied onto screen printed portions of the substrate but merely "positions on the screen printed substrate", the limitation encompasses applying droplets onto the substrate adjacent screen printed areas per fig. 3B,C. Regardless the ink jetted material flows onto the silk-screened depositions, so either way the limitation is met. Since multiple droplets are individually applied by jetting, initial drops are interpreted as add-on jetting of additional material, with subsequent droplet depositions being supplemental jetting.

7. Claims 1,8,19,20,31,37-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Zandman et al US 6271060 (EFD 8-13-1999).

The reference teaches to apply a polymer paste layer 210 having an inherent viscosity suitable for a screen printing application (fig. 2B, col. 5, 19-28), followed by applying solder balls onto the screen printed substrate using solder jetting (col. 7, 43-52; fig. 7A-B) to form semiconductor packages. Since the claim never requires the jetted material to be applied onto screen printed portions of the substrate but merely "positions on the screen printed substrate", the limitation encompasses applying droplets onto the substrate adjacent screen printed areas. Since multiple droplets are individually applied by jetting, initial drops are interpreted as add-on jetting of

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additional material, with subsequent droplet depositions being supplemental jetting. No use of mask or stencil is required.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al or Zandman et al.

Takahashi et al and Zandman are cited for the same reasons previously discussed, which are incorporated herein. Droplets of a predetermined size are not cited. However, one of ordinary skill would have known that a jet ejector operating at a specific set of conditions dispenses individual droplets each of essentially the same volume to provide uniform coating. Therefore the skilled artisan would have selected a jet dispenser which would have formed the deposition dimensions and volumes desired for a given end-use application, in this case the electro conductive film between the screen printed electrodes of Takahashi or the solder balls of Zandman to provide utility to the product.

10. Claims 2-7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al or Zandman et al, in view of Itsuji US 5151299.

Takahashi et al and Zandman et al are cited for the same reasons previously discussed, which are incorporated herein. Removal of screen printed material is not cited. However, Itsuji teaches screen printing may result in deposited material being indistinct or blurred at edges, and

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therefore removal of such material enhances definition of the edges (col. 1, 44-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out Takahashi et al or Zandman et al and incorporate the teachings of Itsuji to provide screen printed electrode depositions with well-defined edges.

As to claims 2,3,7, inspection of article and modification thereof prior to commercial use is simply quality control, which is an obvious step within the purview of one of ordinary skill in the art to remove reject parts or to modify parts with errors to make them economically useable.

Response to Arguments


The Examiner has re-opened prosecution on this case to correct New Matter issues and to introduce new prior art whose EFD predates Applicants admitted date of conception of about June 19, 2000 as stated in the Declaration dated 2/21/06.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Frederick J. Parker
Primary Examiner
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fjp